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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,144	07/12/2001	Alfred Blalock Bahnson	HOUCK-8	2387

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01/15/2003

EXAMINER

TATE, CHRISTOPHER ROBIN

ART UNIT	PAPER NUMBER
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1654

DATE MAILED: 01/15/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/904,144

Applicant(s)
Bahnson

Examiner
Christopher Tate

Art Unit
1654



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Nov 27, 2002
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above, claim(s) 10, 13-15, 18-22, 24, and 32-37 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-9, 11, 12, 16, 17, 23, and 25-31 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 3 6) ☐ Other:

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DETAILED ACTION

Applicant's election with traverse of Group I, claims 1-9, 11, 12, 16, 17, 23, and 25-31 in Paper No. 9 is acknowledged. The traversal is on the ground(s) that the previous Examiner has already issued an Office action and that a common theme through all the claims is in the movement of the cell in a solution where the movement of the cell that is caused by an activity other than the activity of the cell itself is suppressed. This is not found persuasive for the reasons of record with respect to the distinct method steps recited for each Group. It is reemphasized that the methods of Groups I-XI, as evidenced by the claims themselves, are directed to different inventions which are not connected in design, operation, and/or effect; and further that the search for each of the inventions of Groups I-XI is not co-extensive particularly with regard to the literature search. Further, a reference which would anticipate the invention of one group would not necessarily anticipate or even make obvious another group. Finally, the consideration for patentability is different in each case. Thus, it would be an undue burden to examine all of the above inventions in one application.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 U.S.C. § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 1-9, 12, 17, and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is rendered vague and indefinite by the phrase "a solution having a viscosity enhancement medium" (line 3) because it is unclear if the term "having" therein is open or closed language. For clarity, it is suggested that this term be replaced by --containing--.

Claim 9 is rendered vague and indefinite by the phrase "when there is no attachment of the cell involved" (last line). It is unclear as to what attachment this phrase is defining - e.g., attachment to what?

Claim 12 is rendered vague and indefinite by the phrase "without attachment" (last line) for the same reasoning as immediately above - e.g., attachment to what?

Claim 17 is rendered vague and indefinite by the phrase "where surface attachment by the cell is not utilized" (last line) for the same reasoning as above - e.g., attachment to what surface (surface of another cell, a slide, a culture plate, or something else)?

Claim 30 recites the limitation "the plate" in last line. There is insufficient antecedent basis for this limitation in the claim.

All other cited claims depend directly or indirectly from rejected claims and are, therefore, also rejected under U.S.C. 112, second paragraph for the reasons set forth above.

As a formal matter, "poly sacharide" (recited in claim 3), and "centipose" (recited in numerous claims) are misspelled - the correct spellings are --polysaccharide-- and --centipoise--.

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Claim Rejections - 35 U.S.C. § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 7, 9, 11, 12, 17, 23, and 25-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Casey (US 4,161,514).

A method for analyzing a cell by suppressing movement of a cell caused by other than activity of the cell itself via placing the cell (or cells) in a solution containing a viscosity enhancement medium such as methyl cellulose is apparently claimed.

Casey teaches that it is well known in the art to add methyl cellulose (a polysaccharide) to a solution in which a cell (or multiple cells) has been added so as to reduce motility (see, e.g., col 1, lines 17-29) such as for performing microscopic motility examinations/assays thereof (which is inherently reads upon a 2D-type assay). Please note that the addition methyl cellulose would inherently meet the claim limitations with respect to those reciting centipoise ranges as well as those reciting reducing, eliminating, and/or stopping various functional effects from occurring (e.g., reduce ambient motion of the cell and eliminate convective motion; stopping motion of the cells due to mechanical movement; stopping or reducing the effects of gravity on the cell, etc.).

Therefore, the reference is deemed to anticipate the instant claims above.

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Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Froman (US 5,866,354).

Froman teaches the addition of a viscosity enhancement medium layer to a solution in which a cell (or cells) has been placed and measuring/assaying the motility of the cell/cells through the more viscous layer (see, e.g., abstract and col 6, lines 24-37).

Therefore, the reference is deemed to anticipate the instant claims above.

Claim Rejections - 35 U.S.C. § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9, 11, 12, 16, 17, 23, and 25-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Froman (US 5,866,354) and Casey (US 4,161,514).

The references are relied upon for the reasons discussed *supra*.

Froman also teaches that the motility assay conditions may be varied including, e.g., changing the chemical composition of the viscous layer such as by using carboxymethylcellulose (a type of methyl cellulose - instead of using AccudenzTM), viscosity or volume, presence or absence of nutrients and/or other assay conditions, etc. (see, e.g., col 7, line 46-55; col 9, line 60 - col 10, line 11).

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It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to add a viscosity enhancement medium to a solution of cells when running motility assays thereon based upon the beneficial teachings provided by the cited references. It would further have been obvious to one of ordinary skill in the art to utilize methyl cellulose (which, as evidenced by Casey, is a notoriously well known in the art to be an effective viscosity enhancer used to reduce cellular motility in solutions) within the viscous layer taught by Froman because this reference clearly indicates that the chemical composition of the viscous layer therein is a result effective variable which would be routinely optimized by one of ordinary skill in the art in practicing the invention disclosed by the reference. Further, the adjustment of particular conventional working conditions (e.g., determining an appropriate, result-effective amount of methyl cellulose to add to a given cell-containing solution and/or performing a particular type of motility assay thereupon), is deemed merely a matter of judicious selection and routine optimization which is well within the purview of the skilled artisan.

Thus, the invention as a whole is *prima facie* obvious over the references, especially in the absence of evidence to the contrary.

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Conclusion

No claim is allowed.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Tate whose telephone number is (703) 305-7114. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brenda Brumback, can be reached at (703) 306-3220. The Group receptionist may be reached at (703) 308-0196. The fax number for art unit 1654 is (703) 872-9306.



Christopher R. Tate
Primary Examiner, Group 1654